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USPT,PGPB	12 and (plant or Embryophyta)	88	<a href="#">L3</a>
USPT,PGPB	11 and inhibit\$7	159	<a href="#">L2</a>
USPT,PGPB	tryptophan synthase or Indoleglycerol phosphate aldolase or Tryptophan synthetase or Tryptophan desmolase or Tryptophan synthase or Tryptophan synthetase	195	<a href="#">L1</a>



**WEST**[Generate Collection](#)**Search Results - Record(s) 1 through 4 of 4 returned.**☐ 1. Document ID: US 5665537 A

L10: Entry 1 of 4

File: USPT

Sep 9, 1997

US-PAT-NO: 5665537

DOCUMENT-IDENTIFIER: US 5665537 A

TITLE: Herpes simplex virus type 2-glycoprotein G proteins and polypeptides

DATE-ISSUED: September 9, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Parkes; Deborah Lynn	Oakland	CA	N/A	N/A
Coates; Stephen Ralph	Orinda	CA	N/A	N/A

US-CL-CURRENT: [435/5](#); [435/69.3](#), [435/69.7](#), [435/7.1](#), [435/7.92](#), [436/518](#), [436/811](#),  
[530/350](#), [530/388.3](#)

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Claims</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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☐ 2. Document ID: US 5624805 A

L10: Entry 2 of 4

File: USPT

Apr 29, 1997

US-PAT-NO: 5624805

DOCUMENT-IDENTIFIER: US 5624805 A

TITLE: Uses for antibodies which bind to human somatomedin carrier protein subunits

DATE-ISSUED: April 29, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Spencer; Emerald M.	San Francisco	CA	N/A	N/A
Talkington-Verser; Carol	San Rafael	CA	N/A	N/A

US-CL-CURRENT: [435/7.1](#); [436/501](#), [530/395](#), [530/412](#)

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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☐ 3. Document ID: US 5494816 A

L10: Entry 3 of 4

File: USPT

Feb 27, 1996

US-PAT-NO: 5494816  
DOCUMENT-IDENTIFIER: US 5494816 A

TITLE: Enhanced indole biosynthesis

DATE-ISSUED: February 27, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murdock; Douglas C.	Thousand Oaks	CA	N/A	N/A

US-CL-CURRENT: 435/183; 435/122, 435/156, 435/252.3, 435/252.33, 435/252.34,  
435/320.1, 435/69.1, 435/71.1, 536/22.1, 536/23.1, 536/23.2, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 4. Document ID: US 5180873 A

L10: Entry 4 of 4

File: USPT

Jan 19, 1993

US-PAT-NO: 5180873

DOCUMENT-IDENTIFIER: US 5180873 A

TITLE: Transformation of plants to introduce closely linked markers

DATE-ISSUED: January 19, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jorgensen; Richard A.	Berkeley	CA	N/A	N/A

US-CL-CURRENT: 800/266; 435/183, 435/69.1, 47/DIG.1, 800/274, 800/298, 800/303

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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L4: Entry 1 of 48

File: USPT

Oct 28, 1997

US-PAT-NO: 5681818

DOCUMENT-IDENTIFIER: US 5681818 A

TITLE: Therapeutic uses of human somatomedin carrier proteins

DATE-ISSUED: October 28, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Spencer; Emerald Martin	San Francisco	CA	N/A	N/A
Talkington-Verser; Carol	San Rafael	CA	N/A	N/A

US-CL-CURRENT: 514/12

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 2. Document ID: US 5681737 A

L4: Entry 2 of 48

File: USPT

Oct 28, 1997

US-PAT-NO: 5681737

DOCUMENT-IDENTIFIER: US 5681737 A

TITLE: Detection system for mutagens that also identifies mutagenic changes

DATE-ISSUED: October 28, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gee; Pauline	Berkeley	CA	N/A	N/A
Maron; Dorothy M.	Orinda	CA	N/A	N/A
Ames; Bruce N.	Berkeley	CA	N/A	N/A

US-CL-CURRENT: 435/252\_3; 435/252\_8, 435/320\_1, 536/23\_7

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 3. Document ID: US 5674992 A

L4: Entry 3 of 48

File: USPT

Oct 7, 1997

US-PAT-NO: 5674992

DOCUMENT-IDENTIFIER: US 5674992 A

TITLE: CDNA encoding a recA homolog in eukaryotes

DATE-ISSUED: October 7, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jagendorf; Andre	Ithaca	NY	N/A	N/A
Cerutti; Heriberto	Durham	NC	N/A	N/A

US-CL-CURRENT: 536/23.6

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 4. Document ID: US 5670341 A

L4: Entry 4 of 48

File: USPT

Sep 23, 1997

US-PAT-NO: 5670341

DOCUMENT-IDENTIFIER: US 5670341 A

TITLE: DNA vectors, hosts, probes and recombinant methods of preparing human somatomedin-like carrier proteins or polypeptides

DATE-ISSUED: September 23, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Spencer; Emerald Martin	San Francisco	CA	N/A	N/A
Talkington-Versey; Carol	San Rafael	CA	N/A	N/A

US-CL-CURRENT: 435/69.4; 435/252.3, 435/252.8, 435/320.1, 530/350, 530/399, 536/23.4, 536/23.51

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 5. Document ID: US 5665537 A

L4: Entry 5 of 48

File: USPT

Sep 9, 1997

US-PAT-NO: 5665537

DOCUMENT-IDENTIFIER: US 5665537 A

TITLE: Herpes simplex virus type 2-glycoprotein G proteins and polypeptides

DATE-ISSUED: September 9, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Parkes; Deborah Lynn	Oakland	CA	N/A	N/A
Coates; Stephen Ralph	Orinda	CA	N/A	N/A

US-CL-CURRENT: 435/5; 435/69.3, 435/69.7, 435/7.1, 435/7.92, 436/518, 436/811, 530/350, 530/388.3

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KMIC	Draw Desc	Image
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☐ 6. Document ID: US 5656457 A

L4: Entry 6 of 48

File: USPT

Aug 12, 1997

US-PAT-NO: 5656457

DOCUMENT-IDENTIFIER: US 5656457 A

TITLE: DNA sequence for the unique sequence herpes simplex virus type  
2-glycoprotein G protein and method of expressing said unique sequence of  
HSV-2gG

DATE-ISSUED: August 12, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Parkes; Deborah Lynn	Oakland	CA	N/A	N/A
Coates; Stephen Ralph	Orinda	CA	N/A	N/A

US-CL-CURRENT: 435/69.3; 435/252.31, 435/252.33, 435/254.11, 435/325, 435/348,  
435/419, 435/69.1, 536/23.1, 536/23.72

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KMIC	Draw Desc	Image
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☐ 7. Document ID: US 5625136 A

L4: Entry 7 of 48

File: USPT

Apr 29, 1997

US-PAT-NO: 5625136  
DOCUMENT-IDENTIFIER: US 5625136 A

TITLE: Synthetic DNA sequence having enhanced insecticidal activity in maize

DATE-ISSUED: April 29, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Koziel; Michael G.	Cary	NC	N/A	N/A
Desai; Nalini M.	Cary	NC	N/A	N/A
Lewis; Kelly S.	Hillsborough	NC	N/A	N/A
Kramer; Vance C.	Hillsborough	NC	N/A	N/A
Warren; Gregory W.	Cary	NC	N/A	N/A
Evola; Stephen V.	Apex	NC	N/A	N/A
Crossland; Lyle D.	Chapel Hill	NC	N/A	N/A
Wright; Martha S.	Cary	NC	N/A	N/A
Merlin; Ellis J.	Raleigh	NC	N/A	N/A
Launis; Karen L.	Franklinton	NC	N/A	N/A
Rothstein; Steven J.	Guelph	N/A	N/A	CAX
Bowman; Cindy G.	Cary	NC	N/A	N/A
Dawson; John L.	Chapel Hill	NC	N/A	N/A
Dunder; Erik M.	Chapel Hill	NC	N/A	N/A
Pace; Gary M.	Cary	NC	N/A	N/A
Suttie; Janet L.	Raleigh	NC	N/A	N/A

US-CL-CURRENT: 800/302; 435/69.1, 536/23.1, 536/23.71

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 8. Document ID: US 5624805 A

L4: Entry 8 of 48

File: USPT

Apr 29, 1997

US-PAT-NO: 5624805  
DOCUMENT-IDENTIFIER: US 5624805 A

TITLE: Uses for antibodies which bind to human somatomedin carrier protein subunits

DATE-ISSUED: April 29, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Spencer; Emerald M.	San Francisco	CA	N/A	N/A
Talkington-Verser; Carol	San Rafael	CA	N/A	N/A

US-CL-CURRENT: 435/7.1; 436/501, 530/395, 530/412

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 9. Document ID: US 5618710 A



L4: Entry 9 of 48

File: USPT

Apr 8, 1997

US-PAT-NO: 5618710

DOCUMENT-IDENTIFIER: US 5618710 A

TITLE: Crosslinked enzyme crystals

DATE-ISSUED: April 8, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Navia; Manuel A.	Lexington	MA	N/A	N/A
St. Clair; Nancy L.	Charlestown	MA	N/A	N/A

US-CL-CURRENT: 435/174; 424/94.1, 424/94.6, 424/94.63, 435/109, 435/195, 435/198, 435/212, 435/218, 435/41, 435/817, 436/518, 530/413, 530/810

Full	Title	Citation	Front	Review	Classification	Date	Reference	KWIC	Draw Desc	Image
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☐ 10. Document ID: US 5571710 A

L4: Entry 10 of 48

File: USPT

Nov 5, 1996

US-PAT-NO: 5571710

DOCUMENT-IDENTIFIER: US 5571710 A

TITLE: CDNA coding for carcinoembryonic antigen

DATE-ISSUED: November 5, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Barnett; Thomas R.	East Haven	CT	N/A	N/A
Elting; James J.	Madison	CT	N/A	N/A
Kamarck; Michael E.	Bethany	CT	N/A	N/A

US-CL-CURRENT: 435/252.33; 435/243, 435/320.1, 435/419, 435/6, 536/23.1, 536/23.5, 536/24.3, 536/24.31

Full	Title	Citation	Front	Review	Classification	Date	Reference	KWIC	Draw Desc	Image
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☐ 11. Document ID: US 5516936 A

L4: Entry 11 of 48

File: USPT

May 14, 1996

US-PAT-NO: 5516936  
DOCUMENT-IDENTIFIER: US 5516936 A

TITLE: Inhibitors of kynureninase

DATE-ISSUED: May 14, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Phillips; Robert S.	Athens	GA	N/A	N/A
Dua; Rajesh K.	Ann Arbor	MI	N/A	N/A

US-CL-CURRENT: 562/430; 562/11, 562/443

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 12. Document ID: US 5494816 A

L4: Entry 12 of 48

File: USPT

Feb 27, 1996

US-PAT-NO: 5494816  
DOCUMENT-IDENTIFIER: US 5494816 A

TITLE: Enhanced indole biosynthesis

DATE-ISSUED: February 27, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murdock; Douglas C.	Thousand Oaks	CA	N/A	N/A

US-CL-CURRENT: 435/183; 435/122, 435/156, 435/252\_3, 435/252\_33, 435/252\_34,  
435/320\_1, 435/69\_1, 435/71\_1, 536/22\_1, 536/23\_1, 536/23\_2, 536/23\_7

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 13. Document ID: US 5484711 A

L4: Entry 13 of 48

File: USPT

Jan 16, 1996

US-PAT-NO: 5484711  
DOCUMENT-IDENTIFIER: US 5484711 A

TITLE: DNA sequences, recombinant DNA molecules and processes for producing lipocortins III, IV, V & VI

DATE-ISSUED: January 16, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wallner; Barbara P.	Cambridge	MA	N/A	N/A
Pepinsky; R. Blake	Watertown	MA	N/A	N/A
Browning; Jeffrey L.	Cambridge	MA	N/A	N/A

US-CL-CURRENT: 435/69\_2; 435/252\_3, 435/252\_31, 435/252\_33, 435/252\_34,  
435/252\_35, 435/254\_11, 435/320\_1, 536/23\_5, 536/24\_31

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 14. Document ID: US 5472691 A

L4: Entry 14 of 48

File: USPT

Dec 5, 1995

US-PAT-NO: 5472691

DOCUMENT-IDENTIFIER: US 5472691 A

TITLE: Superoxide dismutase

DATE-ISSUED: December 5, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Marklund; Stefan	Umea	N/A	N/A	SEX
Edlund; Thomas	Umea	N/A	N/A	SEX

US-CL-CURRENT: 424/94.4; 435/189

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Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 15. Document ID: US 5442104 A

L4: Entry 15 of 48

File: USPT

Aug 15, 1995

US-PAT-NO: 5442104

DOCUMENT-IDENTIFIER: US 5442104 A

TITLE: Inhibitors of kynureninase

DATE-ISSUED: August 15, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Phillips; Robert S.	Athens	GA	N/A	N/A
Dua; Rajesh K.	Athens	GA	N/A	N/A

US-CL-CURRENT: 562/430; 560/12, 560/13

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Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 16. Document ID: US 5403484 A

L4: Entry 16 of 48

File: USPT

Apr 4, 1995

US-PAT-NO: 5403484

DOCUMENT-IDENTIFIER: US 5403484 A

TITLE: Viruses expressing chimeric binding proteins

DATE-ISSUED: April 4, 1995

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ladner; Robert C.	Ijamsville	MD	N/A	N/A
Guterman; Sonia K.	Belmont	MA	N/A	N/A
Roberts; Bruce L.	Milford	MA	N/A	N/A
Markland; William	Milford	MA	N/A	N/A
Ley; Arthur C.	Newton	MA	N/A	N/A
Kent; Rachel B.	Boxborough	MA	N/A	N/A

US-CL-CURRENT: 435/235.1; 435/252.3, 435/320.1, 435/69.7, 530/350, 536/23.4

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 17. Document ID: US 5401658 A

L4: Entry 17 of 48

File: USPT

Mar 28, 1995

US-PAT-NO: 5401658

DOCUMENT-IDENTIFIER: US 5401658 A

TITLE: Vectors and methods for making such vectors and for expressing cloned genes

DATE-ISSUED: March 28, 1995

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fiers; Walter C.	Destelbergen	N/A	N/A	BEX
Remaut; Erik R.	Vinderhoute	N/A	N/A	BEX

US-CL-CURRENT: 435/252.33; 435/320.1

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 18. Document ID: US 5401642 A

L4: Entry 18 of 48

File: USPT

Mar 28, 1995

US-PAT-NO: 5401642  
DOCUMENT-IDENTIFIER: US 5401642 A

TITLE: Vectors and methods for making such vectors and for expressing cloned genes

DATE-ISSUED: March 28, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fiers; Walter C.	Destelbergen	N/A	N/A	BEX
Remaut; Erik R.	Vinderhoute	N/A	N/A	BEX

US-CL-CURRENT: [435/69\\_1](#); [435/320\\_1](#), [435/69\\_5](#), [435/69\\_51](#), [435/69\\_52](#), [435/69\\_6](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	KWIC	Draw Desc	Image
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☐ 19. Document ID: US 5395767 A

L4: Entry 19 of 48

File: USPT

Mar 7, 1995

US-PAT-NO: 5395767  
DOCUMENT-IDENTIFIER: US 5395767 A

TITLE: Gene for ataxia-telangiectasia complementation group D (ATDC)

DATE-ISSUED: March 7, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murnane; John P.	San Francisco	CA	N/A	N/A
Painter; Robert B.	Burlingame	CA	N/A	N/A
Kapp; Leon N.	San Rafael	CA	N/A	N/A
Yu; Loh-Chung	Redwood City	CA	N/A	N/A

US-CL-CURRENT: [435/320\\_1](#); [435/69\\_1](#), [536/23\\_1](#), [536/24\\_3](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	KWIC	Draw Desc	Image
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☐ 20. Document ID: US 5387676 A

L4: Entry 20 of 48

File: USPT

Feb 7, 1995

US-PAT-NO: 5387676  
DOCUMENT-IDENTIFIER: US 5387676 A

TITLE: MN gene and protein

DATE-ISSUED: February 7, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Zavada; Jan	Bratislava	N/A	N/A	CSX
Pastorekova; Silvia	Bratislava	N/A	N/A	CSX
Pastorek; Jaromir	Bratislava	N/A	N/A	CSX

US-CL-CURRENT: 536/23.5; 435/252.3, 435/254.11, 435/254.2, 435/320.1, 435/325,  
435/348, 435/419, 435/69.1, 536/24.31

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 21. Document ID: US 5374543 A

L4: Entry 21 of 48

File: USPT

Dec 20, 1994

US-PAT-NO: 5374543

DOCUMENT-IDENTIFIER: US 5374543 A

TITLE: Enhanced indole biosynthesis

DATE-ISSUED: December 20, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murdock; Douglas C.	Thousand Oaks	CA	N/A	N/A

US-CL-CURRENT: 435/122; 435/156, 435/252.3, 435/252.33, 435/252.34, 435/320.1,  
435/414, 435/419, 435/69.1, 435/71.1, 536/22.1, 536/23.1, 536/23.2, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 22. Document ID: US 5298489 A

L4: Entry 22 of 48

File: USPT

Mar 29, 1994

US-PAT-NO: 5298489  
DOCUMENT-IDENTIFIER: US 5298489 A

TITLE: DNA sequences recombinant DNA molecules and processes for producing  
lipocortins III, IV, V and VI

DATE-ISSUED: March 29, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wallner; Barbara P.	Cambridge	MA	N/A	N/A
Pepinsky; R. Blake	Watertown	MA	N/A	N/A
Browning; Jeffrey L.	Cambridge	MA	N/A	N/A

US-CL-CURRENT: 514/12; 435/320.1, 435/69.1, 530/350, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 23. Document ID: US 5279951 A

L4: Entry 23 of 48

File: USPT

Jan 18, 1994

US-PAT-NO: 5279951  
DOCUMENT-IDENTIFIER: US 5279951 A

TITLE: Cultivation of transformed microorganisms

DATE-ISSUED: January 18, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Terasawa; Masato	Ami	N/A	N/A	JPX
Yamagata; Hisashi	Toride	N/A	N/A	JPX
Yukawa; Hideaki	Ami	N/A	N/A	JPX
Kurusu; Yasurou	Ami	N/A	N/A	JPX
Fukushima; Makiko	Ami	N/A	N/A	JPX

US-CL-CURRENT: 435/69.1; 435/252.33, 435/320.1, 435/849, 536/23.2, 536/23.7,  
536/24.1

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 24. Document ID: US 5278057 A

L4: Entry 24 of 48

File: USPT

Jan 11, 1994

US-PAT-NO: 5278057  
DOCUMENT-IDENTIFIER: US 5278057 A

TITLE: Transformation of plants to introduce closely linked markers

DATE-ISSUED: January 11, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jorgensen; Richard A.	Berkeley	CA	N/A	N/A

US-CL-CURRENT: 800/266; 435/69.1, 435/70.1, 800/306, 800/314, 800/317.4

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 25. Document ID: US 5274087 A

L4: Entry 25 of 48

File: USPT

Dec 28, 1993

US-PAT-NO: 5274087  
DOCUMENT-IDENTIFIER: US 5274087 A

TITLE: cDNA coding for carcinoembryonic antigen (CEA)

DATE-ISSUED: December 28, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Barnett; Thomas R.	East Haven	CT	N/A	N/A
Elting; James J.	Madison	CT	N/A	N/A
Kamarck; Michael E.	Bethany	CT	N/A	N/A

US-CL-CURRENT: 536/23.5; 435/320.1, 435/6, 536/24.3, 536/24.31

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 26. Document ID: US 5248603 A

L4: Entry 26 of 48

File: USPT

Sep 28, 1993

US-PAT-NO: 5248603  
DOCUMENT-IDENTIFIER: US 5248603 A

TITLE: Superoxide dismutase

DATE-ISSUED: September 28, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Marklund; Stefan	Ume.ang.	N/A	N/A	SEX
Edlund; Thomas	Ume.ang.	N/A	N/A	SEX

US-CL-CURRENT: 435/189; 435/320.1, 435/358, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 27. Document ID: US 5231009 A

L4: Entry 27 of 48

File: USPT

Jul 27, 1993

US-PAT-NO: 5231009

DOCUMENT-IDENTIFIER: US 5231009 A

TITLE: CDNAS coding for members of the carcinoembryonic antigen family

DATE-ISSUED: July 27, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Barnett; Thomas R.	East Haven	CT	N/A	N/A
Elting; James J.	Madison	CT	N/A	N/A
Kamarck; Michael E.	Bethany	CT	N/A	N/A
Kretschmer; Axel W.	Wulfrath	N/A	N/A	DEX

US-CL-CURRENT: 435/371; 435/252.3, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw	Desc	Image
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☐ 28. Document ID: US 5223409 A

L4: Entry 28 of 48

File: USPT

Jun 29, 1993

US-PAT-NO: 5223409

DOCUMENT-IDENTIFIER: US 5223409 A

TITLE: Directed evolution of novel binding proteins

DATE-ISSUED: June 29, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ladner; Robert C.	Ijamsville	MD	N/A	N/A
Guterman; Sonia K.	Belmont	MA	N/A	N/A
Roberts; Bruce L.	Milford	MA	N/A	N/A
Markland; William	Milford	MA	N/A	N/A
Ley; Arthur C.	Newton	MA	N/A	N/A
Kent; Rachel B.	Boxborough	MA	N/A	N/A

US-CL-CURRENT: 435/69.7; 435/252.3, 435/320.1, 435/472, 435/5, 435/69.1, 530/387.3, 530/387.5

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw	Desc	Image
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☐ 29. Document ID: US 5212072 A

L4: Entry 29 of 48

File: USPT

May 18, 1993

US-PAT-NO: 5212072  
DOCUMENT-IDENTIFIER: US 5212072 A

TITLE: Polypeptides complementary to peptides or proteins having an amino acid sequence or nucleotide coding sequence at least partially known and methods of design therefor

DATE-ISSUED: May 18, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blalock; J. Edwin	Birmingham	AL	N/A	N/A
Bost; Kenneth L.	Birmingham	AL	N/A	N/A
Smith; Eric M.	Galveston	TX	N/A	N/A

US-CL-CURRENT: 435/69.1; 435/6, 514/2, 530/333

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 30. Document ID: US 5200509 A

L4: Entry 30 of 48

File: USPT

Apr 6, 1993

US-PAT-NO: 5200509  
DOCUMENT-IDENTIFIER: US 5200509 A

TITLE: Human somatomedin carrier protein subunits and process for producing them; recombinant DNA molecules, hosts, processes and human somatomedin carrier protein-like polypeptides

DATE-ISSUED: April 6, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Spencer; Emerald M.	San Francisco	CA	N/A	N/A
Talkington-Verser; Carol	San Rafael	CA	N/A	N/A

US-CL-CURRENT: 530/350; 530/395

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 31. Document ID: US 5198346 A

L4: Entry 31 of 48

File: USPT

Mar 30, 1993

US-PAT-NO: 5198346  
DOCUMENT-IDENTIFIER: US 5198346 A

TITLE: Generation and selection of novel DNA-binding proteins and polypeptides

DATE-ISSUED: March 30, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ladner; Robert C.	Ijamsville	MD	N/A	N/A
Guterman; Sonia K.	Belmont	MA	N/A	N/A
Kent; Rachel B.	Boxborough	MA	N/A	N/A
Ley; Arthur C.	Newton	MA	N/A	N/A

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 435/489

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 32. Document ID: US 5187071 A

L4: Entry 32 of 48

File: USPT

Feb 16, 1993

US-PAT-NO: 5187071  
DOCUMENT-IDENTIFIER: US 5187071 A

TITLE: Method for the selective control of weeds, pests, and microbes

DATE-ISSUED: February 16, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fischer; Randy S.	Gainesville	FL	32607	N/A
Jensen; Roy A.	Melrose	FL	32666	N/A

US-CL-CURRENT: 435/32; 424/9.2, 435/29, 514/119, 514/76

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 33. Document ID: US 5180873 A

L4: Entry 33 of 48

File: USPT

Jan 19, 1993

US-PAT-NO: 5180873  
DOCUMENT-IDENTIFIER: US 5180873 A

TITLE: Transformation of plants to introduce closely linked markers

DATE-ISSUED: January 19, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jorgensen; Richard A.	Berkeley	CA	N/A	N/A

US-CL-CURRENT: 800/266; 435/183, 435/69.1, 47/DIG.1, 800/274, 800/298, 800/303

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 34. Document ID: US 5130245 A

L4: Entry 34 of 48

File: USPT

Jul 14, 1992

US-PAT-NO: 5130245

DOCUMENT-IDENTIFIER: US 5130245 A

TITLE: Superoxide dismutase

DATE-ISSUED: July 14, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Marklund; Stefan	S-902 37 Ume.ang.	N/A	N/A	SEX
Edlund; Thomas	S-902 39 Umea.ang.	N/A	N/A	SEX

US-CL-CURRENT: 435/189; 435/320.1, 435/358, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 35. Document ID: US 5122599 A

L4: Entry 35 of 48

File: USPT

Jun 16, 1992

US-PAT-NO: 5122599

DOCUMENT-IDENTIFIER: US 5122599 A

TITLE: CDNAS coding for members of the carcinoembryonic antigen family

DATE-ISSUED: June 16, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Barnett; Thomas R.	East Haven	CT	N/A	N/A
Elting; James J.	Madison	CT	N/A	N/A
Kamarck; Michael E.	Bethany	CT	N/A	N/A
Kretschmer; Axel W.	Wulfrath	N/A	N/A	DEX

US-CL-CURRENT: 536/23.5; 435/320.1, 435/6, 536/23.53, 536/24.31

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 36. Document ID: US 5096815 A

L4: Entry 36 of 48

File: USPT

Mar 17, 1992

US-PAT-NO: 5096815  
DOCUMENT-IDENTIFIER: US 5096815 A

TITLE: Generation and selection of novel DNA-binding proteins and polypeptides

DATE-ISSUED: March 17, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ladner; Robert C.	Ijamsville	MD	N/A	N/A
Guterman; Sonia K.	Belmont	MA	N/A	N/A
Kent; Rachel B.	Wilmington	MA	N/A	N/A
Ley; Arthur C.	Newton	MA	N/A	N/A

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 37. Document ID: US 5081019 A

L4: Entry 37 of 48

File: USPT

Jan 14, 1992

US-PAT-NO: 5081019  
DOCUMENT-IDENTIFIER: US 5081019 A

TITLE: DNA sequences, recombinant DNA molecules and processes for producing lipocortin-like polypeptides

DATE-ISSUED: January 14, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wallner; Barbara P.	Cambridge	MA	N/A	N/A
Pepinsky; R. Blake	Watertown	MA	N/A	N/A

US-CL-CURRENT: 435/69.2; 435/252.3, 435/320.1, 435/354, 435/360, 435/365.1,  
536/23.2, 536/23.5, 536/24.1

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 38. Document ID: US 5077195 A

L4: Entry 38 of 48

File: USPT

Dec 31, 1991

US-PAT-NO: 5077195  
DOCUMENT-IDENTIFIER: US 5077195 A

TITLE: Polypeptides complementary to peptides or proteins having an amino acid sequence or nucleotide coding sequence at least partially known and methods of design therefor

DATE-ISSUED: December 31, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blalock; J. Edwin	Birmingham	AL	N/A	N/A
Bost; Kenneth L.	Birmingham	AL	N/A	N/A
Smith; Eric M.	Galveston	TX	N/A	N/A

US-CL-CURRENT: 435/6; 435/483, 435/5, 435/803, 436/501

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 39. Document ID: US 5021076 A

L4: Entry 39 of 48 File: USPT Jun 4, 1991

US-PAT-NO: 5021076  
DOCUMENT-IDENTIFIER: US 5021076 A

TITLE: Enhancement of nitrogen fixation with Bradyrhizobium japonicum mutants

DATE-ISSUED: June 4, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kuykendall; Larry D.	Columbia	MD	N/A	N/A
Hunter; William J.	Fort Collins	CO	N/A	N/A

US-CL-CURRENT: 71/7; 435/252.2, 435/41, 435/878

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 40. Document ID: US 5004689 A

L4: Entry 40 of 48 File: USPT Apr 2, 1991

US-PAT-NO: 5004689  
DOCUMENT-IDENTIFIER: US 5004689 A

TITLE: DNA sequences, recombinant DNA molecules and processes for producing human gamma interferon-like polypeptides in high yields

DATE-ISSUED: April 2, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fiers; Walter C.	Destelbergen	N/A	N/A	BEX
Allet; Bernard	Onex	N/A	N/A	CHX

US-CL-CURRENT: 435/69.51; 435/252.3, 435/252.33, 435/320.1

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 41. Document ID: US 4950646 A

L4: Entry 41 of 48

File: USPT

Aug 21, 1990

US-PAT-NO: 4950646  
DOCUMENT-IDENTIFIER: US 4950646 A

TITLE: DNA sequences, recombinant DNA molecules and processes for producing human lipocortin-like polypeptides

DATE-ISSUED: August 21, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wallner; Barbara P.	Cambridge	MA	N/A	N/A
Pepinsky; R. Blake	Watertown	MA	N/A	N/A
Garwin; Jeffrey L.	Bedford	MA	N/A	N/A
Schindler; Daniel G.	Brighton	MA	N/A	N/A
Huang; Kuo-Sen	Lexington	MA	N/A	N/A

US-CL-CURRENT: 514/12; 514/350

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 42. Document ID: US 4879224 A

L4: Entry 42 of 48

File: USPT

Nov 7, 1989

US-PAT-NO: 4879224  
DOCUMENT-IDENTIFIER: US 4879224 A

TITLE: DNA sequences, recombinant DNA molecules and processes for producing human phospholipase inhibitor polypeptides

DATE-ISSUED: November 7, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wallner; Barbara P.	Cambridge	MA	N/A	N/A
Pepinsky; R. Blake	Watertown	MA	N/A	N/A
Garwin; Jeffrey L.	Bedford	MA	N/A	N/A

US-CL-CURRENT: 435/68.1; 435/252.31, 435/252.33, 435/252.34, 435/252.35, 435/254.11, 435/254.2, 435/320.1, 435/325, 435/69.2, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KVMC	Draw	Desc	Image
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☐ 43. Document ID: US 4874743 A

L4: Entry 43 of 48

File: USPT

Oct 17, 1989

US-PAT-NO: 4874743  
DOCUMENT-IDENTIFIER: US 4874743 A

TITLE: DNA sequences, recombinant DNA molecules and processes for producing human phospholipase inhibitor-like polypeptides

DATE-ISSUED: October 17, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wallner; Barbara P.	Cambridge	MA	N/A	N/A
Pepinsky; R. Blake	Watertown	MA	N/A	N/A
Garwin; Jeffrey L.	Bedford	MA	N/A	N/A

US-CL-CURRENT: 514/12; 530/350

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KVMC	Draw	Desc	Image
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☐ 44. Document ID: US 4874702 A

L4: Entry 44 of 48

File: USPT

Oct 17, 1989



US-PAT-NO: 4874702  
DOCUMENT-IDENTIFIER: US 4874702 A

TITLE: Vectors and methods for making such vectors and for expressive cloned genes

DATE-ISSUED: October 17, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fiers; Walter C.	Destelbergen	N/A	N/A	BEX
Remaut; Rene Erik	Vinderhoute	N/A	N/A	BEX

US-CL-CURRENT: 435/91.41; 435/252.3, 435/252.33, 435/320.1, 435/69.3, 435/69.4, 435/69.51, 536/23.2, 536/23.5, 536/23.51 , 536/23.52, 536/24.1, 536/24.2

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 45. Document ID: US 4863857 A

L4: Entry 45 of 48

File: USPT

Sep 5, 1989

US-PAT-NO: 4863857  
DOCUMENT-IDENTIFIER: US 4863857 A

TITLE: Polypeptide complementary to peptides or proteins having an amino acid sequence or nucleotide coding sequence at least partially known

DATE-ISSUED: September 5, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blalock; J. Edwin	Houston	TX	N/A	N/A
Smith; Eric M.	Galveston	TX	N/A	N/A
Bost; Kenneth L.	Galveston	TX	N/A	N/A

US-CL-CURRENT: 435/69.1; 435/6, 435/68.1, 435/69.4, 435/803, 435/948, 436/501, 536/23.1, 930/10, 930/120, 930/130, 930/141, 930/70, 930/80

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 46. Document ID: US 4758512 A

L4: Entry 46 of 48

File: USPT

Jul 19, 1988

US-PAT-NO: 4758512  
DOCUMENT-IDENTIFIER: US 4758512 A

TITLE: Hosts and methods for producing recombinant products in high yields

DATE-ISSUED: July 19, 1988

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Goldberg; Alfred L.	Brookline	MA	N/A	N/A
Goff; Stephen A.	Boston	MA	N/A	N/A
Casson; Lawrence P.	Somerville	MA	N/A	N/A

US-CL-CURRENT: 435/69.3; 435/471, 435/485, 435/488, 435/69.4, 435/69.51, 435/839, 435/849

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 47. Document ID: US 4716112 A

L4: Entry 47 of 48

File: USPT

Dec 29, 1987

US-PAT-NO: 4716112  
DOCUMENT-IDENTIFIER: US 4716112 A

TITLE: Vectors for increased expression of cloned genes

DATE-ISSUED: December 29, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Panayotatos; Nikos	Geneva	N/A	N/A	CHX

US-CL-CURRENT: 435/69.1; 435/320.1, 435/69.2, 435/69.3, 435/69.51, 435/69.6, 536/23.1, 536/24.1

Full	Title	Citation	Front	Review	Classification	Date	Reference
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KWIC	Draw Desc	Image
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☐ 48. Document ID: US 4530901 A

L4: Entry 48 of 48

File: USPT

Jul 23, 1985

US-PAT-NO: 4530901  
DOCUMENT-IDENTIFIER: US 4530901 A

TITLE: Recombinant DNA molecules and their use in producing human  
interferon-like polypeptides

DATE-ISSUED: July 23, 1985

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weissmann; Charles	Zurich	N/A	N/A	CHX

US-CL-CURRENT: 435/69.51; 435/252.3, 435/252.31, 435/252.33, 435/252.34,  
435/254.11, 435/254.2, 435/320.1, 435/325, 435/475, 435/811, 435/832, 435/839,  
435/849, 435/91.41, 536/23.52, 536/24.1, 930/10, 930/240

Full	Title	Citation	Front	Review	Classification	Date	Reference
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FILE 'HCAPLUS' ENTERED AT 16:28:07 ON 16 SEP 2001

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E RODAWAY SHIRLEY/AU 25

L1 1 S (E3 OR E4 OR E5) AND (PATENT)/DT AND (TRYPTOPHAN SYNTHASE)

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FILE 'HCAPLUS' ENTERED AT 16:43:23 ON 16 SEP 2001

FILE 'REGISTRY' ENTERED AT 16:43:37 ON 16 SEP 2001

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FILE 'HCAPLUS' ENTERED AT 16:43:38 ON 16 SEP 2001

L4 1439 S L3

L5 8 S L4 (L) INHIBIT? (L) ASSAY

L6 6 S L5 AND PD<19980205

E PLANT/CT

E E3+ALL

E PLANT (EMBRYOPHYTA)/CT

E EMBRYOPHYTA/CT

E E3+ALL

L7 15 S L4 (L) INHIBIT? (L) (PLANT OR EMBRYOPHYTA)

L8 12 S L7 AND PD<19980205

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L8 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1998:645638 HCAPLUS

DOCUMENT NUMBER: 129:326714

TITLE: The involvement of the gene trp from Agrobacterium tumefaciens in the auxin-independent growth of transformed carrot cells

AUTHOR(S): Kuznetsova, E. V.; Rekoslavskaya, N. I.; Salyaev, R. K.; Gamanets, L. V.; Enikeev, A. E.

CORPORATE SOURCE: Siberian Division, Russian Academy of Sciences, Kurchatov Institute of Atomic Energy, Irkutsk, 664033, Russia

SOURCE: Russ. J. Plant Physiol. (1998), 45(5), 617-623

CODEN: RJPPE2; ISSN: 1021-4437

PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The activity of **tryptophan synthase** (TrpS) in the suspension culture of carrot (*Daucus carota* L.) cells transformed with *Agrobacterium tumefaciens*, strain 8628, was 5-10 times higher than in wild-type cells. The contents of tryptophan and IAA were also higher in transformed cells. Elution patterns of TrpS from a DEAE-Toypearl column were similar for the bacterial TrpS and TrpS from transformed **plant** cells. Denaturing PAGE demonstrated the presence of two isoenzymes of TrpS in bacterial and transformed carrot cells and only a single isoenzyme in wild-type cells. TrpS from transformed cells cross-reacted with antibodies raised against bacterial TrpS. These antibodies **inhibited** the activity of TrpS from transformed cells more drastically than that from nontransformed cells. In wild-type cells, indole was a more effective precursor of auxin than tryptophan. The conclusion was drawn that the agrobacterial trp gene was expressed in transformed carrot cells.

L8 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1996:624137 HCAPLUS

DOCUMENT NUMBER: 125:270721

TITLE: Characterization of interfamilial somatic hybrids between 5-methyltryptophan-resistant (5MT-resistant) rice (*Oryza sativa* L.) and 5MT-sensitive carrot (*Daucus carota* L.); expression of resistance to 5MT by the somatic hybrids

AUTHOR(S): Kisaka, Horoaki; Kisaka, Mayumi; Kameya, Toshiaki

CORPORATE SOURCE: Inst. of Genetic Ecology, Tohoku Univ., Sendai, 980-77, Japan

SOURCE: Breed. Sci. (1996), 46(3), 221-226

CODEN: BRSCES

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The prodn. of the asym. hybrid **plants** between 5-methyltryptophan-resistant (5MT-resistant) *O. sativa* and 5MT-sensitive *D. carota* was reported previously. Although morphol. of the somatic hybrid **plants** closely resembled that of the parental carrot **plants**, all of the somatic hybrids were resistant to 5MT. In the present study, the expression of resistance to 5MT in cells of these somatic hybrids was investigated. The calli induced from hybrid **plants** and their parents grew in medium that contained a high concn. of 5MT when those calli were supplied with anthranilic acid or tryptophan. However, chorismic acid was not effective in reducing the **inhibition** of cell growth by 5MT. The activities of anthranilate synthase and **tryptophan synthetase** of cells of the somatic hybrids and 5MT-resistant *O. sativa* were about 5 times and 2 times as high as those of cells of 5MT-sensitive *D. carota*, resp. These results

indicated that anthranilate synthase was involved in the mechanism of resistance to 5MT. However, anthranilate synthase activities of the somatic hybrids and 5MT-resistant *O. sativa* were quite sensitive to feedback **inhibition** by tryptophan, as was that of 5MT-sensitive *D. carota*. Northern hybridization using a gene for anthranilate synthase as probe revealed that levels of expression of the gene in the somatic hybrids and 5MT-resistant *O. sativa* were higher than that of 5MT-sensitive *D. carota*. Furthermore, the somatic hybrids contained the gene for anthranilate synthase that originated from 5MT-resistant *O. sativa*. These results suggested that the resistance to 5MT in cells of the somatic hybrids was transferred from that of 5MT-resistant *O. sativa* through cell fusion.

L8 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1996:124395 HCAPLUS  
DOCUMENT NUMBER: 124:198246  
TITLE: 5-Fluoroindole resistance identifies tryptophan synthase beta subunit mutants in *Arabidopsis thaliana*  
AUTHOR(S): Barczak, Andrea J.; Zhao, Jianmin; Pruitt, Kim D.; Last, Robert L.  
CORPORATE SOURCE: Boyce Thompson Institute Plant Research, Cornell University, Ithaca, NY, 14853-1801, USA  
SOURCE: Genetics (1995), 140(1), 303-13  
CODEN: GENTAE; ISSN: 0016-6731  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB A study of the biochem. genetics of the *Arabidopsis thaliana* **tryptophan synthase** beta subunit was initiated by characterization of mutants resistant to the **inhibitor** 5-fluoroindole. Thirteen recessive mutations were recovered that are allelic to trp2-1, a mutation in the more highly expressed of duplicate **tryptophan synthase** beta subunit genes (TSB1). Ten of these mutations (trp2-2 through trp2-11) cause a tryptophan requirement (auxotrophs), whereas three (trp2-100 through trp2-102) remain tryptophan prototrophs. The mutations cause a variety of changes in **tryptophan synthase** beta expression. For example, two mutations (trp2-5 and trp2-8) cause dramatically reduced accumulation of TSB mRNA and immunol. detectable protein, whereas trp2-10 is assocd. with increased mRNA and protein. A correlation exists between the quantity of mutant beta and wild-type alpha subunit levels in the trp2 mutant **plants**, suggesting that the synthesis of these proteins is coordinated or that the quantity or structure of the beta subunit influences the stability of the alpha protein. The level of immunol. detectable anthranilate synthase alpha subunit protein is increased in the trp2 mutants, suggesting the possibility of regulation of anthranilate synthase levels in response to tryptophan limitation.

L8 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1995:929286 HCAPLUS  
DOCUMENT NUMBER: 123:335212  
TITLE: Characterization of anthranilate synthetase and tryptophan synthase in a 5-methyltryptophan resistant mutant (MR 1) of *Zea mays* l.  
AUTHOR(S): Kang, Kwon Kyoo; Kameya, Toshiaki  
CORPORATE SOURCE: Institute of Genetic Ecology, Tohoku University, Sendai, 980, Japan  
SOURCE: Breed. Sci. (1995), Volume Date 1995, 45(3), 321-5  
CODEN: BRSCES  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Anthranilate synthetase (AS) and **tryptophan synthase** (TS) enzymes were analyzed for characterization of 5-methyl-tryptophan (5MT)-resistant mutant **plants** (MR 1) in maize. There were no

significant differences in the level of AS activity between MR 1 and control seedlings when grown on MS medium without 5MT. However, the level of AS was 2 times higher in MR 1 seedlings grown on MS medium with 25 ppm 5MT than in control seedlings. The activity of AS from control seedlings was 50 % **inhibited** by 5 ppm tryptophan added to ext., while the enzyme from MR 1 seedlings was 50 % **inhibited** by 4 times higher concns. (20 ppm) of tryptophan. The level of TS activity in MR 1 was 4 times higher than that in control seedlings when cultured on MS medium. For a more detailed study on TS, the gene encoding the **tryptophan synthase** B subunit (TSB) was isolated from maize and sequenced. The gene showed high homol. to TSB isolated from other organisms. Northern hybridization anal. indicated that the gene expressed in MR 1 seedlings grown on MS medium at a higher level than in control seedlings. From the results, it was found that MR 1 **plants** showed differences in the character of AS, as reported previously in cell lines resistant to 5MT, and also notable diversity regarding TS activity when compared to control **plants**.

L8 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1990:117838 HCAPLUS

DOCUMENT NUMBER: 112:117838

TITLE: Effect of zinc supply on the growth of corn and tryptophan-synthase activity

AUTHOR(S): Karakis, K. D.; Sidorshina, T. N.; Ermak, M. M.

CORPORATE SOURCE: Inst. Plant Physiol. Genet., Kiev, USSR

SOURCE: Fiziol. Biokhim. Kul't. Rast. (1990), 22(1), 47-53

CODEN: FBKRAT; ISSN: 0532-9310

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB Excluding Zn from the nutrient soln. of 2-wk-old **plants** for 2 wk decreased the wt. of aerial parts and roots of corn by 20 and 30%, resp., and **inhibited tryptophan synthase** (I). Within 1 day of restoration of Zn to the control level of 250 .mu.g/L the wt. and I were almost completely restored, but subsequently the aftereffects of Zn deprivation again retarded growth and depressed I. One wk after restoration of Zn its contents in the roots, stems, and foliage were 207, 181, and 143%, resp., of controls continuously supplied with Zn. However, subsequently the Zn contents in the stressed **plants** lagged behind controls, as detd. in 35-day-old **plants**. The Zn restoration also transiently increased I, tryptophan and IAA which within a wk decreased below controls and then slowly increased again to approach controls by the day 35 of growth. The close correlation of I with Zn nutrition is illustrated by the rapid I reactivation by Zn restoration: a considerable I stimulation was recorded already after 1 h of Zn restoration.

L8 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1989:472994 HCAPLUS

DOCUMENT NUMBER: 111:72994

TITLE: Screening of tryptophan synthase inhibitors as leads of herbicide candidates

AUTHOR(S): Shuto, Akira; Ohgai, Mayumi; Eto, Morifusa

CORPORATE SOURCE: Dep. Agric. Chem., Kyushu Univ., Fukuoka, 812, Japan

SOURCE: Nippon Noyaku Gakkaishi (1989), 14(1), 69-74

CODEN: NNGADV; ISSN: 0385-1559

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Of 53 heterocyclic compds. and 10 mercaptans tested, 4-(dimethylamino)-(I), 4-(diethylamino)-, and 4-(N-methyl-N-phenylamino)pyridines and 2-mercaptobenzimidazole (II) **inhibited tryptophan synthase** from Escherichia coli most strongly, with median **inhibitory** concns. of 0.067, 0.061, 0.072, and 0.045 mM, resp. I had no marked effect on whole **plants**, whereas II showed

considerable postemergence phytotoxicity.

L8 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1988:72204 HCAPLUS

DOCUMENT NUMBER: 108:72204

TITLE: Changes in content and metabolism of L-tryptophan and indolic enzyme content in organs of wintering plants

AUTHOR(S): Stefl, Miroslav; Zemanova-Trckova, Marie

CORPORATE SOURCE: Czech.

SOURCE: Sb. Vys. Sk. Zemed. Praze, Fak. Agron., Rada A (1986), A-45, 63-78

CODEN: SVZACW; ISSN: 0556-1221

DOCUMENT TYPE: Journal

LANGUAGE: Czech

AB Cooling winter rape or wheat in the field or in the lab. to <4.degree. dehydrated their tissues and increased the bound/free tryptophan ratio. This instantly dissocd. the active .alpha.3.beta.4 oligomer of tryptophan synthase to inactive subunits 3.alpha. + 2.beta.2 and thereby stopped L-tryptophan formation. The concomitant cessation of L-tryptophan conversion to IAA increased the L-tryptophan content 2-4-fold. Natural rewarming in spring, or exptl. rewarming during hardening, rehydrated the tissues, reassocd. tryptophan synthase to the active form, and initiated L-tryptophan formation and conversion to IAA. This decreased the content of L-tryptophan and induced growth. Thus, the plants adapt to winter cold by a simple regulation mechanism which does not involve feedback.

L8 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1978:456507 HCAPLUS

DOCUMENT NUMBER: 89:56507

TITLE: Comparison of in vivo activity of L-tryptophan synthase in plants with a low and a high content of L-tryptophan

AUTHOR(S): Eder, J.; Kutacek, M.; Kefeli, V. I.; Vackova, Kveta; Langer, I.

CORPORATE SOURCE: Inst. Exp. Bot., Czech. Acad. Sci., Prague, Czech.

SOURCE: Biol. Plant. (1978), 20(3), 181-6

CODEN: BPABAJ; ISSN: 0006-3134

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The activity of L-tryptophan synthase (TS) was compared in vivo in seedlings of **plants** high in L-tryptophan (L-Trp) (pea and kohlrabi) and low in this amino acid (corn). In corn the TS was studied both in the normal and in the opaque-2 genotype that forms an endosperm rich in essential amino acids. The activity of TS was detd. on the basis of the increase in radioactivity of the chromatog. purified L-Trp-14C, synthesized after vacuum infiltration of L-serine-U-14C and incubation for 24 h. As regards the TS activity in seedlings, corn is comparable to pea and kohlrabi; in contrast to this TS is less active in pea seedlings, which can be attributed to the presence of TS **inhibitor** (J. Chen and W. G. Boll, 1969). In ripening corn kernels and leaves adjacent to the ear the TS activity was .apprx.20 times lower than in seedlings. Differences in the activity of TS in the genotypes of corn could not be detected, even at the period of seed ripening. Therefore the differences in the L-Trp content in the **plants** cannot be explained by a differing activity of TS. TS is probably not the detg. regulator of L-Trp level in **plants**; its activity is relatively high even in **plants** low in L-Trp.

L8 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1975:83000 HCAPLUS

DOCUMENT NUMBER: 82:83000

TITLE: Measurement of the five enzymes which convert chorismate to tryptophan in wheat plants (Triticum aestivum cv Kalyansona)



AUTHOR(S): Singh, Mahendra; Widholm, J. M.  
CORPORATE SOURCE: Dep. Agron., Univ. Illinois, Urbana, Ill., USA  
SOURCE: Physiol. Plant. (1974), 32(3), 240-6  
CODEN: PHPLAI  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Conditions are described for measuring anthranilate synthetase, anthranilate-PRPP-phosphoriboxyl transferase, N-5'-phosphoribosyl anthranilate isomerase, indole-3-glycerol phosphate synthetase, and **tryptophan synthetase** in crude exts. from *T. aestivum* (wheat) **plants**. Only the last enzyme has been measured before in exts. from green **plants**. The extractable quantities of each enzyme in all **plant** parts at all stages of growth were sufficient to synthesize the amt. of tryptophan present within the same tissue in 48 hr. Anthranilate synthetase activity was the lowest of the 5 enzyme activities and was the only 1 **inhibited** by tryptophan in vitro, indicating that this enzyme may be the control point in tryptophan biosynthesis in wheat **plants**.

L8 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1974:45123 HCAPLUS  
DOCUMENT NUMBER: 80:45123  
TITLE: Effect of free amino acids and related compounds on the activity of **plant** enzymes. II.  
**Inhibition of tryptophan synthase** (E. C. 4.2.1.20) from the **plants** of *Pisum sativum* by amino acids and growth substances

AUTHOR(S): Horak, V.; Stefl, M.; Trcka, I.  
CORPORATE SOURCE: Chem. Ustav, Zemed. Fak., Prague-Suchdol, Czech.  
SOURCE: Collect. Czech. Chem. Commun. (1973), 38(11), 3532-8  
CODEN: CCCCCK  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Inhibition of a partly purified enzyme prepn. by the 22 compds. studied depended considerably on the concn. of the inhibitor. Tryptophan, tyrosine, threonine, and SCN- had a strong and the other 10 amino acids and growth regulators (e.g., indoleacetic acid, gibberellic acid) a weak inhibitory effect. Cysteine behaved at high concns. as a potent activator and at low concns. as an inhibitor. The inhibition kinetics for different amino acids were detd.

L8 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1972:123257 HCAPLUS  
DOCUMENT NUMBER: 76:123257  
TITLE: Tryptophan synthase. Partial purification and some properties of the B-protein subunit from pea plants (*Pisum sativum* cv Alaska)

AUTHOR(S): Chen, James; Boll, W. G.  
CORPORATE SOURCE: Dep. Bot., McGill Univ., Montreal, Que., Can.  
SOURCE: Can. J. Bot. (1972), 50(3), 587-94  
CODEN: CJBOAW  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB A method was developed for partial purification of the B-protein of **tryptophan synthase** (EC 4.2.1.20) from pea **plants**. The enzyme was purified 28-fold with .apprx.21% recovery. The purification procedure removed both A-protein activity, and denatured A-protein, from the B-protein. The B-protein was unstable and activity was not preserved by either dithiothreitol, mercaptoethanol, or L-cysteine. These sulfhydryl compds. were **inhibitory** at relatively low concns. Both pyridoxal phosphate and glycerol preserved

the activity to some extent. Glycerol itself was **inhibitory**. However, when the enzyme was stored with 25% glycerol in the cold the activity actually increased within the 1st 24 hr. The enzyme was most stable as a suspension in (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> soln. The partially purified B-protein, in the absence of A-protein, catalyzed the condensation of indole and serine to tryptophan. Pyridoxal phosphate was required for max. activity while both pyridoxine phosphate and pyridoxamine phosphate were inactive in the system. The mol. wt. of the B-protein was estd. to be .apprx.101,000, which is close to that of the B-protein subunit of Escherichia coli. Differences in properties between bacterial, tobacco, and pea **tryptophan synthase** are discussed.

L8 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1971:107880 HCAPLUS

DOCUMENT NUMBER: 74:107880

TITLE: Effect of preliminary cesium-137 .gamma.-irradiation on tryptophan and serine content in seeds of various agricultural plants

AUTHOR(S): Revin, A. F.; Berezina, N. M.

CORPORATE SOURCE: Inst. Biol. Fiz., Moscow, USSR

SOURCE: Biol. Nauki (1971), (1), 54-6

CODEN: BINKBT

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB An increase in tryptophan and serine content of seeds occurred after stimulating doses (100-1000 R, depending on the radiosensitivity of the **plant**) of <sup>137</sup>Cs .gamma.-irradn. Suppressing doses (10-300 Ci) decreased the tryptophan content, markedly increased the serine content of radiosensitive cultures, but had no effect on the serine content of radioresistant cultures. .GAMMA.-Irradn. evidently disrupts biosynthesis of .beta.-indoleacetic acid, not only at the indoleacetaldehyde-.beta.-indoleacetic acid stage, but also at the stage of biosynthesis of tryptophan from serine and indole. Apparently, **tryptophan synthetase** is inhibited.